

WHAT IS CLAIMED IS:

1. A semiconductor integrated circuit device comprising;
 - a first circuit block having first and second modes;
 - a second circuit block; and
 - an interface circuit provided between an output of the first circuit block and an input of the second circuit block;
 - wherein the interface circuit includes a storage unit to hold a state of the output of the first circuit block and a signal gate unit provided between the storage unit and the output of the first circuit block,
 - wherein a first supply voltage is applied to the first circuit block in the first mode and the first supply voltage is stopped to apply to the first circuit block in the second mode and
 - wherein the signal gate unit connects the storage unit to the output of the first circuit block in the first mode and the signal gate unit disconnects the storage unit from the output of the first circuit block in the second mode.
2. The semiconductor integrated circuit device according to claim 1, wherein the first circuit block includes a plurality of registers,
 - wherein values of the registers are saved when the first circuit block changes from the first mode to the second mode.
3. The semiconductor integrated circuit device according to claim 2, further comprising:
 - a memory to save the values of the registers.
4. The semiconductor integrated circuit device according to claim 2, wherein the interface circuit includes a comparator ("CMP") to compare the state of the output of the first circuit block and a state of the input of the second circuit block,
 - wherein, when the first circuit block changes from the second mode to the first mode, the values of the registers are restored to the registers of the first

circuit block (S8 in Fig. 2) and the state of the output of the first circuit block becomes stable based on the restored values of the registers and

wherein, when the state of the output of the first circuit block based on the restored values of the registers matches the state of the input of the second circuit block, the signal gate unit is controlled to connect the storage unit to the output of the first circuit block.

5. The semiconductor integrated circuit device according to claim 1, further comprising:
 - a first area ("main power source area"); and
 - a second area ("sub-power source area") electrically separated from the first area;
 - wherein the first circuit block is provided in the first area and the interface circuit block is provided in the second area.
6. The semiconductor integrated circuit device according to claim 5, further comprising:
 - a third area ("power source line area");
 - wherein a power supply line to supply the first supply voltage to the first circuit block is provided in the power supply line and
 - wherein the third area is provided to surround the first area and the second area is provided to surround the third area,
7. The semiconductor integrated circuit device according to claim 1, wherein a second power supply voltage is applied to the interface circuit and a third power supply voltage is applied to the second circuit.
8. The semiconductor integrated circuit device according to claim 7, wherein the first, second and third power supply voltages are controlled by an external power device.
9. The semiconductor integrated circuit device according to claim 7, wherein the second power supply voltage is equal to the first power supply voltage and the third power supply voltage is higher than the first power supply voltage and
 - wherein the second circuit block includes an I/O circuit.

10. A semiconductor integrated circuit device comprising:
 - a first circuit block;
 - a second circuit block; and
 - an interface circuit provided between an output of the first circuit block and an input of the second circuit block;
 - wherein the interface circuit includes a storage unit to hold a state of the output of the first circuit block and a signal gate unit provided between the storage unit and the output of the first circuit block and
 - wherein the signal gate unit connects the storage unit to the output of the first circuit block when a first power supply is applied to the first circuit block and the signal gate unit disconnects the storage unit from the output of the first circuit block when the first power supply is stopped to apply to the first circuit block.
11. The semiconductor integrated circuit device according to claim 10, wherein the first circuit block includes a plurality of registers,
 - wherein values of the registers are saved before the first power supply is stopped to apply to the first circuit block..
12. The semiconductor integrated circuit device according to claim 11, further comprising;
 - a memory to save the values of the registers.
13. The semiconductor integrated circuit device according to claim 11, wherein the interface circuit includes a comparator to compare the state of the output of the first circuit block and a state of the input of the second circuit block,
 - wherein, when the power supply voltage is applied to the first circuit block again, the values of the registers are restored to the registers of the first circuit block and the state of the output of the first circuit block becomes stable based on the restored values of the registers and
 - wherein, when the state of the output of the first circuit block based on the restored values of the registers matches the state of the input of the second circuit

block, the signal gate unit is controlled to connect the storage unit to the output of the first circuit Mock.

14. The semiconductor integrated circuit device according to claim 10, further comprising:
 - a first area; and
 - a second area electrically separated from the first area;
 - wherein the first circuit block is provided in the first area and the interface circuit block is provided in the second area.
15. The semiconductor integrated circuit device according to claim 14, further comprising:
 - a third area;
 - wherein a power supply line to supply the first supply voltage to the first circuit block is provided in the power supply line and
 - wherein the third area is provided to surround the first area and the second area is provided to surround the third area.
16. The semiconductor integrated circuit device according to claim 10, wherein a second power supply voltage is applied to the interface circuit and a third power supply voltage is applied to the second circuit.
17. The semiconductor integrated circuit device according to claim 16, wherein the first, second and third power supply voltages are controlled by an external power device,
18. The semiconductor integrated circuit device according to claim 16, wherein the second power supply voltage is equal to the first power supply voltage and the third power supply voltage is higher than the first power supply voltage and
wherein the second circuit block includes an I/O Circuit.